

# C-band 20W BUC

Preliminary



## Description:

This C-band BUC takes the L-band signal from a commercially available IDU and up-converts it to a C-band RF signal. It provides the small size, light weight, high output power, and high reliability needed by most satellite communication applications. The BUC is a stable, reliable and cost effective Integration of C-band BUC and SSPA. It delivers a minimum output power of 20 W. The SSPA consists of field proven Sumitomo IMFETs with the output device rated at 35W.

The BUC is built and tested to ensure reliable, long term, non-interrupted operation. It is available as a private label product. We provide turn key solution with custom labels, packaging and drop ship services.

## Features:

- Converts L-Band to C-Band
- Integrated SSPA with output power up to 20W
- Excellent phase noise
- Compact and light weight
- Field proven high power devices
- SSPA is protected against any output terminations
- Parallel Push-Pull forced air cooling
- Temperature and output power mointor
- SSPA manual shutdown
- Auto shutdown over temperature and out-of-lock conditions
- Built-in power supply with AC input of 95-240V

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## Specifications:

Input Frequency Range	950 to 1525 MHz
Output Frequency Range	5.85 – 6.425 GHz
Conversion Gain	70 dB, nom
Gain Variation over Full band	4.0 dB p-p, max
Gain Variation over 36 MHz	1.0 dB p-p, max
Gain Variation over Temperature	± 2.5 dB p-p, max
Output Power @ P1dB	43.0 dBm, min.
Phase Noise @ 1 kHz	-70 dBc/Hz, max
@ 10 kHz	-80 dBc/Hz, max
@ 100 kHz	-90 dBc/Hz, max
Requirement for External Reference	
Frequency	10 MHz (sine-wave)
Input Power	-5 to +5 dBm
Phase Noise @ 100 Hz	-125 dBc/Hz, max
@ 1 KHz	-135 dBc/Hz, max
@ 10 KHz	-140 dBc/Hz, max
Spurious @ 43 dBm Output Power	-55 dBc, max
LO Leakage @ 4.90 GHz	-20 dBm, max
Input VSWR	1.5 :1, max
Output VSWR	1.5 :1, max
3IMD, 2 tones	-25 dBc, max, @ 37 dBm SCL
RX band Noise Power Density	-150 dBm/Hz max. @ 3.625-4.20 GHz
Max IF Input Power without Damage	+10 dBm
Over-temperature shut-down	80 - 85°C case
AC Power Consumption	220 W, max

## Interface:

IF IN Connector	N (F)
RF OUT	WR-137
AC Input Connector Pin-out: (MS3102R 16-10P)	
Pin A	Line, 90-265 VAC; 47-63 Hz; Auto-ranging
Pin B	Chassis GND
Pin C	Neutral
M&C Connector Pin-out: (MS3102R 20-29S)	
Pin A	Signal GND
Pin B	Temp. Monitor, 3.0 V at 30°C; 10mV/°C
Pin C	Power Detector, 5 V max @ P1dB
Pin D	Summary Alarm, Alarm = 5V; Normal = 0V
Pin E	Mute HPA In, 5V Internal pull-up Mute = Input to GND
Pin L	Lock Monitor, Alarm/Unlock = 0V Normal/Lock = 5V
Pin M	Signal GND

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## Environmental:

Dimension	272 X 215 X 137 mm
Weight	6.0 Kg
Waveguide Mounting Screw	#10-24
Temperature	-40°C to +55°C (operating), -55°C to +85°C (storage)
Water Seal	IP-67
Humidity	100%, condensing
Altitude	10,000 AMSL, de-rated 2°C/1,000' from AMSL

## Outline Dimension: (in mm)

